

ABSTRACT OF THE DISCLOSURE

A method of reclaiming a well completion brine solution by using an organic chelant that is capable of discriminating between (i) iron and non-zinc heavy metals; and (ii) calcium and zinc. The chelant contains a functional group selected from the group -

5 CO₂H or -PO(OH)R²⁰ or a salt or ester thereof, -C(O)-, -OE, -SE, -N=C(R²)R³, EO-N=C(R²)R³, -N(R²)R³, and -N(C(O)R¹)R² group optionally substituted with a -COOH or -PO(OH)R²⁰ or a salt or ester thereof, -SE or -OE group, wherein R² and R³ are independently selected from E or forms, with nitrogen, phosphorous, oxygen or sulfur, a heterocyclic ring; E is R¹ or -H; R¹ is a C₁-C₃₀ alkyl or aralkyl group or a derivative

10 thereof and R²⁰ is -OH or R¹.